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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,432	09/01/2006	Claus Froberg	65084.000022	1423
21967 7590 03/02/2010 HUNTON & WILLIAMS LLP INTELLECTUAL PROPERTY DEPARTMENT 1900 K STREET, N.W. SUITE 1200 WASHINGTON, DC 20006-1109				
EXAMINER				
PAGE, BRENT T				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/591,432

Applicant(s)

FROHBURG ET AL.

Examiner

BRENT PAGE

Art Unit

1638

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-2, 4, 6-17, 19-24, 26-28, 30-32, and 34-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 34-43 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 4, 17, 22 and 30-32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The Reply filed by Applicant on 11/02/2009 is hereby acknowledged. The cancellation of claims 3, 5 and 18 without prejudice is hereby acknowledged. The addition of new claims 42 and 43 is hereby acknowledged. Claims 1-2, 4, 6-17, 19-24, 26-28, 30-32, and 34-43 are pending and examined herein on the merits.

Election/Restrictions

Applicant's election with traverse of SEQ ID NO:3 and SEQ ID NO:4 in the reply filed on 11/02/2009 is acknowledged. The traversal is on the grounds that both sequences encode OK1 proteins and have shared characteristics. This is not found persuasive because different nucleic acids are considered to encode different amino acids unless said sequences are stated by Applicant to be obvious variants of one another.

The requirement is still deemed proper and is therefore made FINAL.

Specification

The disclosure remains objected to because it contains an embedded hyperlink and/or other form of browser-executable code. There are 11 embedded hyperlinks in the specification, 1 in paragraph 37, 3 in paragraph 98, 2 in paragraph 323, 3 in paragraph 359 and 1 in paragraph 435. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Applicants urge that the application has already been published and does not contain a live web link.

This is not persuasive because should any subject matter be found allowable, failure to remove said hyperlinks from the text of the specification would result in a delay in the issuance of the application until such hyperlinks are removed. The removal of these hyperlinks is required, See MPEP § 608.01, wherein it states “37 CFR 1.57(d) states that an incorporation by reference by hyperlink or other form of browser executable code is not permitted”.

Claim Rejections - 35 USC § 112-2nd paragraph

Applicant's arguments, see page 8 of response, filed 06/29/2009, with respect to indefiniteness have been fully considered and are persuasive when taken together with the claim amendments. The rejection of claim 40 under 35 USC 112 2nd paragraph for being indefinite has been withdrawn.

Claim Rejections - 35 USC § 101

Applicant's arguments, see page 9 of response, filed 06/29/2009, with respect to nonstatutory subject matter have been fully considered and are persuasive when taken together with the claim amendments. The rejection of claim 39 under 35 USC 101 for being drawn to nonstatutory subject matter has been withdrawn.

Claim Rejections - 35 USC § 102

Applicant's arguments, see pages 9-10 of the response, filed 06/29/2009, with respect to anticipation by Frohberg and Schewe et al and Kriz have been fully considered and are persuasive when taken together with the claim amendments that specify the foreign nucleic acid

molecule must encode an OK1 protein. The rejection of claims 1, 2, 4, 6-17, 19-24 and 26 as being anticipated by Frohberg has been withdrawn. The rejection of claims 1, 2, 4, 6-17, 19-24, 26, 30 and 31 as being anticipated by Schewe has been withdrawn. The rejection of claim 39 as being anticipated by Kriz has been withdrawn.

Claim Rejections - 35 USC § 103

Applicant's arguments, see page 10 of the response, filed 06/29/2009, with respect to obviousness by Frohberg and Schewe et al have been fully considered and are persuasive when taken together with the claim amendments that specify the foreign nucleic acid molecule must encode an OK1 protein. The rejection of claims 1, 2, 4, 6-17, 19-24 and 26-28 as being obvious over Frohberg has been withdrawn. The rejection of claims 1, 2, 4, 6-17, 19-24, 26-28, and 30-32 as being obvious over Schewe has been withdrawn.

A closer inspection of the prior art has necessitated the following New ground of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2 and 6-16, 19-21 rejected under 35 U.S.C. 102(e) as being anticipated by Kikuchi et al (US20060123505A1, filed May 29, 2003).

The claims are directed to a genetically modified plant cell which exhibits increased activity in at least one OK1 protein and at least one R1 protein comprising at least one foreign nucleic acid molecule, wherein a modified starch is synthesized, propagation material from said plant, a harvestable part of said plant and a method of manufacturing a genetically modified plant, wherein the foreign nucleic acid encodes an OK1 protein, and a host cell, vector, composition, plant and harvestable parts all comprising said foreign nucleic acid molecule.

Kikuchi et al teach the transformation of a host cell and regeneration of a plant with SEQ ID NO:22133 which encodes the OK1 protein or PWD from rice, a vector comprising the sequence and plant parts therefrom, wherein the starch properties are inherent in the expression of the foreign nucleic acid (see claims 1-26, for example). It is unclear from the Examples of the instant specification whether or not the transformation of a plant with only OK1 results in an increase in activity of at least one R1 protein, but given the interaction of the two proteins and the increased phosphorylation of starch when both enzymes are present, and given that endogenous copies of the R1 would normally be present in a transgenic plant, this is considered by the Examiner to be an inherent property absent evidence to the contrary.

Double Patenting

Applicant's arguments, see page 10, filed 06/29/2009, with respect to obviousness double patenting over claims 5-11 of U.S. Patent No. 6521816 have been fully considered and are persuasive when taken together with the claim amendments that specify the foreign nucleic acid molecule must encode an OK1 protein. The rejection of claims 4, 6, 12-13, 15-17, 19 and 23 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 5-11 of U.S. Patent No. 6521816 has been withdrawn.

Claims 1-2, and 7-15 remain provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 of copending Application No. 10/591428. Although the conflicting claims are not identical, they are not patentably distinct from each other because if proven to be enabled, the transformation of a plant with an OK1 protein encoding nucleic acid as claimed in claim 3 of the instant application would be indistinguishable from the transformation of a plant with an OK1 protein encoding nucleic acid in claim 3 of the copending Application. Should the property of increasing the activity of an R1 protein be found to be enabled from the transformation of a plant with OK1 only, the rejected claims above would all be indistinguishable from claims 1-12 of the copending application because the increased R1 activity would be an inherent property of OK1.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicants urge to hold this rejection in abeyance until all claims are indicated as allowable.

This is not persuasive because not all claims have been indicated as allowable.

Claims 1-2, 7-12, 23-24, and 26-28 remain provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3, 5-8, 21 and 25-27 of copending Application No. 10/591540. Although the conflicting claims are not identical, they are not patentably distinct from each other because if proven to be enabled, the transformation of a plant with an OK1 protein encoding nucleic acid as claimed in claim 3 of the instant application would be indistinguishable from the transformation of a plant with an OK1 protein encoding nucleic acid in claim 3 of the copending Application. Should the property of increasing the activity of an R1 protein be found to be enabled from the transformation of a plant with OK1 only, claims 1-3, 7-12, and 23-28 above would all be indistinguishable from claims 1-3, 5-8, 21 and 25-27 of the copending application because the increased R1 activity would be an inherent property of OK1.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicants urge to hold this rejection in abeyance until all claims are indicated as allowable.

This is not persuasive because not all claims have been indicated as allowable.

Claims 4, 17, 22, 30-32 and 34-43 are free of the prior art given the failure of the prior art to disclose or suggest the transformation of a plant with nucleic acids encoding both the OK1 and R1 proteins, and obtaining a modified starch therefrom, particularly in the absence of a

suggestion to combine the two genes given that the disclosure by Kikuchi et al does not describe the function of SEQ ID NO:22133, and therefore does not suggest a combination with the R1 protein or the modified starches or flours of the instant invention.

Claims 4, 17, 22, and 30-32 are objected to for depending from rejected claims and would be allowable if re-written in independent form.

Claims 34-43 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRENT PAGE whose telephone number is (571)272-5914. The examiner can normally be reached on Monday-Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571)-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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